

We claim:

1. A method of identifying features for a classifier, said method including:
  - identifying a set of elements that share a common characteristic, each element of said set of elements including one or more features;
  - identifying those elements in said set of elements that possess a second characteristic, so as to form a subset of said set; and
  - selecting a feature that is more commonly possessed by the elements in said subset than the elements in said set excluding said subset, and that is more commonly possessed by the elements in said set excluding said subset, compared to elements outside said set.
2. A computer-readable memory that can be used to instruct a computer to identify features for a classifier, including:
  - instructions to identify a set of elements that share a common characteristic, each element of said set of elements including one or more features;
  - instructions to identify those elements in said set of elements that possess a second characteristic, so as to form a subset of said set; and
  - instructions to select a feature that is more commonly possessed by the elements in said subset than the elements in said set excluding said subset, and that is more commonly possessed by the elements in said set excluding said subset, compared to elements outside said set.
3. A method of identifying features that can be used for a classifier, said method comprising:
  - defining a first set of elements that share a first feature;
  - identifying a second set of elements within said first set of elements that share a second feature;
  - selecting a designated element from said second set of elements;
  - picking a designated feature associated with said designated element; and
  - selecting said designated feature for a classifier when said designated feature is more commonly possessed in said second set of elements than in a first space that

includes said first set of elements but excludes said second set of elements, and is more commonly possessed in said first space than in a second space outside said first space.

4. A computer-readable memory that can be used to instruct a computer to identify features for a classifier, including:

instructions to define a first set of elements that share a first feature;

instructions to identify a second set of elements within said first set of elements that share a second feature;

instructions to select a designated element from said second set of elements;

instructions to pick a designated feature associated with said designated element;

and

instructions to select said designated feature for a classifier when said designated feature is more commonly possessed in said second set of elements than in a first space that includes said first set of elements but excludes said second set of elements, and is more commonly possessed in said first space than in a second space outside said first space.

5. A method of identifying features for a classifier, said method including the steps of:

(A) defining a list of features;

(B) selecting a first feature from said list of features;

(C) identifying a set of elements that possess said first feature;

(D) identifying those elements in said set of elements that possess any other feature in said list of features, so as to form a subset of said set;

(E) selecting a feature that is more commonly possessed by the elements in said subset than the elements in said set excluding said subset, and that is more commonly possessed by the elements in said set excluding said subset, compared to elements outside said set, so as to designate a candidate feature;

(F) adding said candidate feature to said list of features if said candidate feature is not already in said list of features;

(G) selecting from said list of features a feature that has not already been selected, so as to designate a next feature;

(H) identifying a set of elements that possess said next feature; and

- (I) repeating (D), (E), (F), (G), and (H) in order until every feature in said list of features has been selected.
6. The method of claim 5 wherein said list of features includes associated weighting values, and wherein (F) includes determining a weighting value for said candidate feature, sorting the features in said list of features in order of their associated weighting values, and removing certain features from said list of features based on said weighting values.
7. A computer-readable memory that can be used to instruct a computer to identify features for a classifier, including instructions to:
- (A) define a list of features;
  - (B) select a first feature from said list of features;
  - (C) identify a set of elements that possess said first feature;
  - (D) identify those elements in said set of elements that possess any other feature in said list of features, so as to form a subset of said set;
  - (E) select a feature that is more commonly possessed by the elements in said subset than the elements in said set excluding said subset, and that is more commonly possessed by the elements in said set excluding said subset, compared to elements outside said set, so as to designate a candidate feature;
  - (F) add said candidate feature to said list of features if said candidate feature is not already in said list of features;
  - (G) select from said list of features a feature that has not already been selected, so as to designate a next feature;
  - (H) identify a set of elements that possess said next feature; and
  - (I) repeat (D), (E), (F), (G), and (H) in order until every feature in said list of features has been selected.
8. The computer-readable memory of claim 7 wherein said list of features includes associated weighting values, and wherein (F) includes instructions to determine a weighting value for said candidate feature, sort the features in said list of features in order of their associated weighting values, and remove certain features from said list of features based on said weighting values.